Rangeland Resources & Best Management Practices Review - Targhee NF

Allotments: Meyers Creek S&G & Icehouse-Willow Creek S&G **Forest/District:** Caribou-Targhee NF, Ashton/Island Park RD **Date:** 9/18/2007

Reviewers: Rob Mickelsen (Forest Natural Resources & Planning); Kyle Moore (District Rangeland Specialist); and Brad Higginson (Supervisor's Office Hydrology). Lee Mabey (S.O. Fisheries) also visited the area during the summer of 2007.

Grazing System: Deferred Rotation

Meyers Creek Season of Use: July 7 to August 2	
Unit/Area	**Rotation Dates**
Pond	July 9-13
Lower Meyers	July 13- 19
East Meyers	July 19-26
Middle Meyers	July 26-30
Upper Meyers	July 30-August 1

Icehouse-Willow Creek Season of Use: July 1 to August 31
Band Rotation Instructions: Sheep will graze in a counter clockwise rotation, beginning at the Willow Creek corrals and ending on the lower portion of Willow Creek.

Meyers Creek S&G Unit Reviewed:	Upper Meyers Creek	**On Date(s):**	7/7	**Off Date(s)**	8/2
Icehouse-Willow Creek S&G Areas Reviewed:	Willow Creek		7/1		8/31
	Icehouse Creek		7/1		8/31

6TH Level Watersheds: 170402020301 – Meyers Creek
170402020205 – Icehouse Creek
170402020206 – Yale Creek

Streams Examined: Meyers Creek (Meyer Creek Allotment) and Willow Creek (Icehouse-Willow Creek Allotment)
Icehouse Creek (Icehouse-Willow Allotment)
None: Tom Creek is located within this watershed on the Icehouse-Willow Allotment.

Geology: Upper Meyers Creek Area: Local alluvium or colluvium from mixed sources (EUI unit # 1170).
Willow Creek Riparian Area: Alluvium (EUI unit # 2609)
Willow and Icehouse Creek Areas: Local alluvium or colluvium (EUI unit # 1149) and Igneous (EUI unit # 1150)

Major Soils and Community Types:

Upper Meyers Creek Area: EUI unit # 1170 – ABLA/Tall Forb Yodal 4 to 35% slopes. Fine loamy, mixed, active Abruptic Paleboralfs. Fernleaf licoriceroot-duncecap larkspar c.t.; nettleleaf giant hyssop-showy goldeneye c.t.; islands and ribbons of the subalpine fir/gooseberry currant p.a., whitebark pine phase.

Willow Creek Riparian Area: EUI unit # 2609 – PIEN Cryaquolls, 2-8% slopes. Engelmann's spruce/bluejoint c.t.; lodgepole pine/bluejoint community; Booth's willow, Geyer's willow, Wolf's willow, or subalpine/bluejoint.

Willow and Icehouse Creek Areas: EUI unit # 1149 – PSME/CARU, CARU Edgway, 15-40% slopes. Loamy-skeletal, mixed, superactive Vitrandic Cryoborolls. Douglas fir/pinegrass and whortleleaf snowberry community; quaking aspen/whortleleaf snowberry/pine grass and

pinegrass c.t.. EUI unit # 1150 – ABLA/CARU, CARU RHYLOW – ABLA/CARU, CARU Fitzwil association, 4-40% slopes. Loamy-skeletal, mixed, superactive Vitrandic Cryumbrepts and loamy-skeletal, mixed, active Vitrandic Paleboralfs. Douglas fir/pinegrass community and whortleleaf snowberry community; subalpine fir/pinegrass p.a..

Notes: The Forest is currently conducting the environmental analysis (i.e. NEPA work) for the Allotment Management Plan (AMP) revision of these two allotments.

Meyers Creek S&G Allotment Summary: This allotment is operated by the U.S. Sheep Experiment Station. Livestock use for the 2007 season included 750 ewes and 1,125 lambs. As part of the operation, the Station maintains the Keg Springs Road (FSR 042) and some trails in the area. During the field assessment, sheep use across the upper Meyers Creek area appeared to be very light (See Photo 1).

Photo 1. Typical use in the upper Meyers Creek area.

Lee Mabey visited the allotment on August 10, 2007. Overall, he observed light use across the allotment. He found that the majority of Meyers Creek in healthy condition. Lee did note a few isolated areas of heavier sheep use:

- A localized area on the intermittent tributary to Meyers Creek located about ¾ miles upstream from the Yale Kilgore road had been impacted by sheep trailing. The trail decreased bank stability and increased the potential for sediment input during runoff.
- A spring received use, but it did not have extreme impacts (Photo 2). Use was localized to the spring area and the rest of the stream was relatively unimpacted.
- One bedding area located in the conifers high up in the drainage (Photo 3). The total bare area is estimated at ½ acre in size and is approximately 2,000 feet from the stream.

Photo 2. Spring area used for sheep watering. Localized area.

Photo 3. Bedding area.

Icehouse-Willow Creek S&G Allotment Summary: Average use from 1931 to 1935 was approximately 2317 Animal Unit Months (AUM's). The average use from 1940 to 1951 was approximately 1840 AUM's. In the mid 1950's the permit was further adjusted to 1000 head for approximately 2000 AUM's. Current permittee has had the allotment since the mid 1980's. Current use is for 1070 sheep (ewe/lamb) from 7/1 to 8/31 for approximately 575 AUM's. A modified "spoke" Nested Frequency site was installed over the top of an old Parker 3-Step analysis site in 2007. This allotment was in non-use for several years prior to 2006. The allotment was grazed in 2006 and 2007. Livestock use for the 2007 season included 1,070 ewes/lambs and 2 horses. Appropriate species are found within the allotment. Current ground cover is approximately 90%. Rangeland health is functioning with an upward trend (see table below).

Meyers Creek S&G Allotment Summary: Records indicate the US Sheep Experiment Station received a grazing permit in 1919 for 1450 sheep at no charge. Subsequent permits were renewed until 1990. Current use is for 900 sheep (ewe/lamb) from 7/7 to 8/2 or an approximately 189 AUM's. A modified "spoke" Nested Frequency site was installed over the top of an old Parker 3-Step analyses site in 2007. Major streams within this allotment include Blind and Meyers Creeks, along with short sections of Schneider and Keg Springs Creeks. Appropriate species are found within the allotment. Ground cover has improved since the mid 1960's. Current ground cover is approximately 90%. Rangeland health is functioning with an upward trend (see table below).

Ground Cover within Icehouse/Willow and Meyers Creek S&G Allotments

Allotment	Study Site	Methodology	Year	% Ground Cover
Icehouse/ Willow Cr.	Icehouse/Willow Creek	**Parker 3- Step	1965	96
		Parker 3- Step	1979	74
		Ocular	1963	77
		*Site Analysis	1964	77
		***Nested Frequency	2007	90
Meyers Creek	Meyers Creek	Parker 3-Step	1964	70
		Site Analysis	1969	82
		Ocular	1969	88
		Nested Frequency	2007	90

Rangeland Resources & Best Management Practices Review - Targhee NF

Use the Following Rating Guide and Definitions to Score Each Practice

Implemented	Score
Exceeds objective of practice	5
Meets objective of practice	4
Minor departure from practice	3
Major departure from practice	2
Gross neglect of practice	1

Effective	Score
Improved protection of soil and water over pre-project conditions	5
Adequate protection of soil and water	4
Minor and temporary impacts on soil and water	3
Major and temporary, or minor and prolonged impacts on soil and water	2
Major and prolonged impacts on soil and water	1

Term	Definition
Adequate	Small amount of material eroded; material does not reach ephemeral draws, intermittent and perennial streams, or wetlands
Minor	Erosion and delivery of material to ephemeral draws but not intermittent and perennial streams, or wetlands
Major	Erosion and subsequent delivery of sediment to ephemeral draws, intermittent and perennial streams, or wetlands
Temporary	Impacts expected to last one year or less or no more than one runoff season
Prolonged	Impacts expected to last more than one year or one runoff season

Project Specific Measures from 2007 Annual Operating Instructions (AOI)

Sheep Herding Practice	Implemented	Effective	Notes
Notify the District at least three days prior to entering the National Forest.	4	4	
Trailing on and off of the allotment will be within the permitted season of use.	4	4	
Bed grounds will not be used more than one night, except in emergencies or with prior approval of the Forest Officer in Charge. When possible, sheep will "bed out."	4 overall 3 on one bed ground	4 overall 3 on one bed ground	
Sheep will be open herded and dogs will be used to a minimum to prevent heavy trampling and over grazing.	4	4	
Sheep will not be bedded within 300 feet of any running stream or live spring. There may be some exceptions due to topography. Sheep will not be shaded or salted on or near water.	4	4	
Area closures for watershed protection will not be grazed.	We were not able to evaluate these areas.		The Meyers Creek 2007 AOI also states that "these areas have been identified in your grazing permit." The official file did not contain a map however. Kyle will place a copy in the official files for future reference. The Icehouse-Willow Allotment file did contain a map showing the closed area on the small tributary below Horsemint Spring. The GIS layer shows an additional closed area the northwest portion of the allotment. All of these areas should be evaluated for grazing suitability and capability during the current NEPA and AMP revision.
"Once over" grazing will be practiced. Grazing use should be light enough to ensure no damage to palatable, or key, forage plants or to the soil.	4	4	See upland utilization standards from the Targhee NF Revised Forest Plan below.

Rangeland Resources & Best Management Practices Review - Targhee NF

Project Specific Measures from 2007 Annual Operating Instructions (AOI)

Sheep Herding Practice	Implemented	Effective	Notes
Dead livestock within 300 feet of meadows, water sources, and main roads will be promptly removed and properly disposed of.	4	4	No problems observed.
Camps will be kept and left clean. Holding pens, corrals, or mangers will be removed or cleaned up when camp is relocated.	4	4	The AOI should also include the food storage orders.

Targhee NF – Revised Forest Plan Standard and Guidelines

<table>
<tr><th>Element</th><th>Standards and Guidelines</th><th>Implemented</th><th>Effective</th><th>Notes</th></tr>
<tr><td>Soils Quality/Forested Ecosystems[1]</td><td>Strive to maintain fine organic matter (FOM) over at least 50% of the area. The preference is for FOM to be undisturbed, but if disturbed, it should be of sufficient quantity and quality to avoid detrimental nutrient cycle deficits. If the soil and potential natural community are not capable of producing FOM over 50% of the area, adjust minimum amounts to reflect potential soil and vegetation capability. (G)</td><td>4</td><td>4</td><td>Sheep tend not to utilize heavy forested areas and grazing does not appear to be influencing FOM levels in those areas.</td></tr>
<tr><td>Watershed, General</td><td>Not more than 30% of any of the principal watersheds and their subwatersheds should be in a hydrologically disturbed condition at any one time. (G)</td><td>4</td><td>4</td><td>Sheep grazing is not resulting in an excessive amount of hydrologically disturbed areas.</td></tr>
<tr><td>Range – Upland Forage Utilization</td><td>Apply upland forage utilization levels to all allotments and/or management areas as shown below, unless determined otherwise through the IDT process. These guidelines apply to native and desirable non-native vegetation as recorded at the end of the growing season. (G)
<table>
<tr><th></th><th colspan="2">Season-Long Grazing</th><th></th><th colspan="2">Rotation Grazing</th></tr>
<tr><th></th><th>Unsatisfact. Range</th><th>Satisfact. Range</th><th></th><th>Unsatisfact. Range</th><th>Satisfact. Range</th></tr>
<tr><td>Grass Herb</td><td>35%</td><td>45%</td><td></td><td>45%</td><td>55%</td></tr>
<tr><td>Shrubs</td><td>25%</td><td>35%</td><td></td><td>35%</td><td>35%</td></tr>
</table></td><td>4</td><td>4</td><td>The upland areas examined were well within utilization levels. Both allotments contain satisfactory range and use a rotation grazing system. The allowable use levels are 55% on Grass/herbaceous and 35% on shrubs.</td></tr>
<tr><td>Range - Riparian Forage Utilization - Woody Plant Utilization</td><td>Not more than 30% use on riparian woody plant species (current year’s growth) is allowed. 30% is the maximum allowed use as recorded at the end of the grazing period. (S)</td><td>4</td><td>4</td><td>Riparian woody use levels were very low in examined riparian areas.</td></tr>
</table>

[1] Timber related guideline. Determine if this guideline is appropriate for the allotment.

Rangeland Resources & Best Management Practices Review - Targhee NF

Element	Standards and Guidelines	Implemented	Effective	Notes
Range - Riparian Forage Utilization – Riparian Vegetation Stubble Height Standard	1. At the hydric green-line (HGL), there will be at least 4 inches of stubble height remaining on key species at the end of the grazing period, unless determined otherwise through the IDT process. This standard applies to key species of native and desirable non-native hydric vegetation. (S) 2. Away from the HGL, at least 3 inches of stubble height will be left on the remainder of the key riparian species at the end of the grazing period, unless determined otherwise through the IDT process. (S)	4	4	These standards are more applicable to cattle allotments.
Range – Allotment Management Planning (AMP)	Salt should be placed greater than a ¼ mile from water, or as far from water as practicable. Salting should be designed to avoid conflicts with aspen regeneration, conifer plantations, and system trails. (G)	4	4	Herders typically salt while bedding. These areas are generally on ridges and/or away from streams.
Range – (AMP)	Permitees are allowed motorized access to maintain facilities. AMPs and AOIs will include direction that motorized access must be less than 2 vehicles per week (This permitted access is not included in the OROMTRD). (S)	4	4	
Range – (AMP) and Fisheries & Other Aquatic Resources	Within subwatersheds occupied by native cutthroat trout or designated as vital to meeting recovery goals, identify areas where livestock grazing is causing fisheries habitat conditions to fall below or retard the rate of recovery toward the values described in the "Expected values for healthy fish habitat conditions" (listed below). Include specific remedial actions in the AMP or AOI. Progress toward meeting these expected values should be monitored and grazing systems adjusted, as necessary. (G) Expected Values for Healthy Fish Habitat Conditions: • Pool frequency – at least 1 pool per length of stream equal to 5-7 times the channel width. • Water Temp. – 13º C or less with a max daily average no greater than 9 in spawning habitats or 16º C with a max daily average no greater than 12 in adult holding habitats. • LWD – Greater than 20 pieces/mile. • Bank stability – Greater than 80% Lower bank angle (non-forested systems) – Greater than 75% of banks with less than 90º angle. Width/depth ratio – suitable for Rosgen stream type.	4	4	The sheep use examined does not appear to be influencing the expected values at the watershed level. Disturbances are localized at small areas such as watering areas.
Aquatic Influence Zone (AIZ) – Range	Incorporate into AMPs, objectives for attainment of desired vegetation conditions for riparian plant community seral stage development and stream channel condition. (G)	3	4	The intent of this BMP is currently met by inclusion in the AOIs and the Permits. The AMP revisions are expected to be completed by the end of 2008.
Aquatic Influence Zone (AIZ) – Range	Existing livestock watering facilities, corrals, and holding pastures within these lands are allowed at permit issuance only if mitigation measures are implemented to reduce negative effects. (G)	Did not evaluate	Did not evaluate	One corral is located on the Icehouse-Willow Allotment. We did not visit the location.

Rangeland Resources & Best Management Practices Review - Targhee NF

R1/R4 FSH 2509.22, Chapter10 - Soil and Water Conservation Practices

Practice	Objective and Implementation	Implemented	Effective	Notes
17.01 – Range Analysis, Allotment Management Plan, Grazing Permit System, and Permittee Operating Plan	To maintain and protect soil and water resources through sustained forage production and managed multiple use of range forage. Implementation: • Allotment is NEPA sufficient (if yes, give date) and AMP is sufficient (if yes, give date) • Preparation and approval of AMP • Revise AMP as needed • AOI prepared or revised (as needed) annually to adjust for current allotment conditions and trends and to incorporate special instructions • Permittee carries out the plan • Corrective action is taken if permitee does not comply with permit conditions designed to protect soil and water resources.	4	4	NEPA is expected to be completed in 2007. The AMP will be revised in 2008 with the 2007 NEPA information. Applicable measures are included in the AOI and Permit until the AMP can be revised.
17.02 – Controlling Livestock Numbers and Season of Use	To maintain and protect soil and water resources through management of livestock numbers and season of use. Implementation: • Proper stocking rates and season of use specified in the grazing permit. • Annual field checks are made to identify needed adjustments: range readiness evaluations, livestock counts, forage & browse utilization, and periodic assessments of rangelands (soil and veg. trends) • Permit is modified, cancelled, or suspended if needed.	3	4	Range readiness, field checks, and livestock counts were not conducted this year due to time constraints. Use levels observed during the evaluation are well within allowable limits.
17.03 – Controlling Livestock Distribution	To maintain and protect soil and water resources, including riparian areas though controlling livestock distribution. Implementation: Proper techniques are used to reduce the impact on sensitive or naturally overused areas. Techniques may include: • Fence construction and use of seasonal or pasture system management • Water developments in areas that receive little use and closures of water developments when proper use is achieved. • Other Range improvements. • Riding & herding to shift livestock locations • Placing salt or supplements away from water in forage areas with light grazing use to attract livestock • Moving livestock when prescribed utilization levels are reached. • Goats and sheep – open herding, limited trailing, and use of new bed grounds nightly. Direction is incorporated into the AMP and AOI. The AOI reflects current allotment conditions and vegetative trends.	4	4	Direction is incorporated in the AOI until the AMP is revised in 2008.

Rangeland Resources & Best Management Practices Review - Targhee NF

R1/R4 FSH 2509.22, Chapter10 - Soil and Water Conservation Practices

Practice	Objective and Implementation	Implemented	Effective	Notes
17.04 – Rangeland Improvements	To maintain and protect soil and water resources the use of rangeland improvements. Implementation: Improvements are recognized in the allotment planning process. Improvements are used to improve management and restore or improve forage quality, quantity, or availability. Improvements may include: • Rest and/or deferment through rotation grazing, fencing, or lighter grazing use by changing the grazing season, kind, class, or permitted number of livestock. • Stream stabilization projects • Reseeding, fertilization, and/or other non-structural improvements • Water developments • ID teams provide consultation on improvements and they are constructed in manner that protects surface and ground water quality	4	4	

R4 Soil Management Handbook, FSH 2509.18 – Chapter 2 – Soil Quality Monitoring

Practice	Objective and Implementation	Implemented	Effective	Notes
Detrimental Soil Disturbance[2]	No more than 15% of an activity area should have detrimentally disturbed soil after the completion of all management activities. In other words, at least 85% of an activity area should be in a non-detrimentally disturbed condition.	4	4	These measures have been analyzed as part of the NEPA analysis.
Effective Ground Cover	The minimum effective ground cover, following the cessation of disturbance in an activity area, should be sufficient to prevent detrimental erosion. Detrimental erosion includes erosion rates that cause long-term productivity losses from an activity area or soil losses that are beyond those acceptable for the activity area. Minimum amounts of ground cover necessary to protect a soil from erosion are a function of soil properties, slope gradient and length, and erosivity (precipitation factor).	4	4	

[2] Discuss the proper scale of the activity area (e.g. allotment, pasture, riparian areas ….). Activity Area is define in the handbooks as "an area impacted by a land management activity, excluding specified transportation facilities, dedicated trails, and mining excavations and dumps. Activity areas include such areas as: harvest units within timber sale areas and prescribed burn areas. Riparian and other environmentally sensitive areas may be monitored and evaluated as individual activity areas within larger management areas. It is recommended to describe the Activity Area for soil resources within planning and project implementation documents."